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ABSTRACT

A teaching team leader and second grade teacher designed and implemented a 10-week practicum intervention meant to improve the inferential comprehension of 105 second graders whose reading scores on the Ginn Mastery Tests revealed a gap between inferential and literal comprehension. It was reasoned that the gap would decrease if teachers were trained to use higher order questions in learning activities and provide opportunities for students to practice answering questions. Through use of Bloom's taxonomy of educational objectives and story mapping, teachers developed questions concerning fairy tales. Evaluation data indicated that teachers acquired knowledge of Bloom's taxonomy and students improved in their ability to answer a developmental group of higher order questions. The gap between students' inferential and literal comprehension reading test scores decreased from 37 to 13 percent. Observation suggested that students' creativity was enhanced, and developed from simple activities to major group projects. Lesson plans for stories, including sample questions and learning activities, are provided. Appended materials include lists of Bloom Action Verbs for Classroom Action in the cognitive domains of knowledge, comprehension, application, analysis, synthesis, and evaluation. (RH)

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USING HIGHER ORDER COGNITIVE QUESTIONS IN THE PRIMARY CLASSROOM TO IMPROVE COMPREHENSION

by

Susan W. Coolidge

A Practicum Report

submitted to the faculty of the Center for the Advancement of Education of Nova University in partial fulfillment of the requirements for the degree of Master of Science in Elementary Education.

The abstract of this report may be placed in a National Database System for reference.

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Authorship Statement

I hereby testify that this paper and the work it reports are entirely my own. When it has been necessary to draw from the work of others, published or unpublished, I have acknowledged such work in accordance with accepted scholarly and editorial practice. I give this testimony freely, out of respect for the scholarship of other workers in the field and in the hope that my own work, presented here, will earn similar respect.

Signed: Susan Coolidge

Student's Name

Nova University
Center For The Advancement of Education
3301 College Avenue
Fort Lauderdale, FL 33314

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Practicum Title Using Higher Order Questions in the Primary Classroom to Improve Comprehension

Student's Name Susan Coolidge

Program Site Bradenton Date 7/6/89

Observer's Name Victoria Short Victoria Short
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Observer's position teacher Phone # 351-3875

Observer's comment on impact of the project (handwritten):

This project was very successful, in that, the children were challenged to develop higher-order thinking. The students enjoyed the varied activities involved in this project.

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ABSTRACT

Using Higher Order Questions in the Primary Classroom to Improve Comprehension.
Coolidge, Susan W., 1989, Practicum Report, Nova University, The Center for the Advancement of Education.
Descriptors: Primary Education/Reading Comprehension/ Inference/ Fairy Tales/Questioning Techniques/Reading Strategies/Discovery Learning/

The writer described a program developed and put into practice aimed at improving the inferential comprehension of primary students. The target population of teachers learned to develope higher-order questions based on Bloom's Taxonomy. The target students, guided by the target teachers, used a story-map approach to develop questions based on fairy tales. Story mapping included listing the setting,problem, main events, and the resolution of the story. This foundation led to developing higher-order questions and answers. The writer determined success by evaluating the target population of students and teachers using the following approaches: (1) The writer explained to team members Bloom's Taxonomy and its uses in leading children to increase higher-order thinking; (2)Team members practiced phrasing higher-order questions in weekly staff meetings; and (3)Second grade students were exposed to questions requiring application, analysis, synthesis and evaluation in order to prepare them to improve comprehension scores on Ginn Mastery Tests.

Posttesting of teachers and students showed improved skill in higher-order questioning and thinking. Appendices include Pre-implementation Level Summary, Teacher Questionaire (Pretest), Teacher Questionaire (Posttest), Student Pre/posttest, Bloom Action Verbs for Classroom Action, and a Story Map.

CHAPTER I

Purpose

The setting for the 105 second graders involved in this study included two double classrooms that opened for team teaching and one traditional classroom. Due to a wide range of ability levels which extend from kindergarten to third grade as shown by Ginn Reading Mastery Tests (Appendix A:38), the students were homogeneously grouped with a base teacher for language arts and then regrouped for mathematics instruction. One double classroom included average to high students, the single classroom had average students, and the other double had average to low students, as determined by their reading levels and past performance. By grouping in this manner, each teacher still had five to seven reading groups and numerous sub-groups in spelling and skill needs to accomodate children at their instructional level. Thirty-four percent of the students came from families that fell in the low socio-economic level determined by the students who qualify for free or reduced lunch. Sixty-six percent of

the students ranged from high to average socio-economic levels with the majority of the students falling in the average range. Appoximately six percent of the students were Black, seven percent were Hispanic, and 87 percent were White.

Special needs students included 10 percent in Specific Learning Disabilities, four percent in Speech, one percent in Occupational Therapy, three percent in Gifted, and 27 percent in the Chapter I Reading Program. The writer was team leader of the second grade team, a supplemental duty, and a full-time instructor at that level in the double classroom that contained average and below-average students.

Duties and responsibilities included coordinating an educational staff of six (five teachers and one teacher aide), informing the second grade team of school policies and activities, ordering materials, scheduling, facilitating weekly team planning meetings, and maintaining a harmonious working atmosphere. During the current school year the reading supervisor initiated an extensive county-wide inservice meeting to improve teaching strategies in the area of reading comprehension. This study, therefore, was a part of the

general plan for all county teachers. In preparing for the inservice meeting, the writer discussed comprhension concerns with other second grade teachers. The group identified higher order questioning techniques as a major problem area. To extend the insevice and tailor the target program to correspond to the specific needs of the target population, second grade teachers felt higher-order questions should be emphasized. The teachers were excited about utilizing materials designed by the writer to increase the number of higher-order questions used in the classroom which would, in turn, extend students' thinking abilities and increase comprehension. A need was also indicated when the mastery test results which accompanied the basal series used in these classrooms were analyzed.

Upon completion of every basal reader in the Ginn series, each student was given a mastery test as a culmination activity to verify whether the skills taught at that level had minimal mastery by every student. The first sections on the test are literal and inferential comprehension. If the student did not achieve minimal mastery of these parts, the remainder

of the test was not given. Upon reviewing the past student performance on the preceding mastery test, the following information was compiled.

Comprehension Type	Passed 100% or Missed 1	Passed-Missed 2 or more missed	Failed
Literal	52 %	43 %	5 %
Inferential	15 %	68 %	17 %

From these statistics it was evident that students did not perform as well on the inferential section as on the literal section. Inferential questions involved higher-order thinking than literal questions. A discrepency gap of 37 percent existed between second graders' ability to answer literal and inferential questions. Students required increased instruction on the inferential level to improve competency.

After statistics were compiled from the mastery test, a survey of the target teachers was taken by the writer (Appendix B:39). Only four teachers responded to the survey since the writer was excluded. Respondents

listed ten questions they had previousy used in a specific lesson in the classroom.

Alloting a value of 2.5 to each of 40 questions, the resulting percentages, tallied by the writer using Bloom's Taxonomy, were:

Knowledge	60 %
Comprehension	32.5 %
Application	0 %
Analysis	2.5 %
Synthesis	0 %
Evaluation	2 %

Upon discussing Bloom's Taxonomy with fellow teachers after the survey was analyzed, the writer noted their general dissatisfaction with the level of questions used in all subject areas. Research shows that the questions teachers ask strongly affect achievement of the students (Lewis, 1976). After reflecting on the writer's second grade classroom experience, and analyzing survey responses and statistics based on student performance on the Ginn Mastery Tests, the writer determined students' ability to evaluate, apply, and create new ideas will be enhanced by use of higher order questions.

After acquainting students with the six levels of questioning in a developmental sequence, the writer was certain they would be capable of answering questions at higher levels.

The problem addressed in this practicum, therefore, was decreasing the discrepancy gap between target students' inferential comprehension and literal comprehension. By training teachers to use higher order questions and providing practice for the target population of students in answering questions, the gap should decrease. Outcome objectives were generated by the writer as follows:

1. One hundred percent of the target population of teachers would demonstrate their ability to phase in developmental sequence cognitive questions, according to Bloom's Taxonomy, with 90 percent accuracy as measured by requirements outlined in the posttest given at the end of ten weeks (Appendix C:40).

2.Ninety percent of the target students would improve by at least 20 percent in their ability to answer a developmental group of higher-order questions as measured by comparison of scores on the teacher-made

pre/posttest given before and after ten weeks of implementation (Appendix D:41).

3. Fifty percent of the target students would answer correctly at least 90 percent of the inferential questions on the Ginn Mastery Test given at the end of the current school year.

CHAPTER II

Reseach and Solution Strategy

"Socrates, one of the greatest teachers of all times, guided learning through a sequence of questions by which he led the learner to discover knowledge" (Perez, 1986). The period between Socrates' teachings and the present has not valued higher order questioning sufficiently.

Until the mid 1800's reading instruction focused primarily on achieving a high standard of oral reading. McGuffey, in his widely used first set of texts, included directions or assistance to the relatively untrained teachers of that era. Some of the aids were short lessons, numbered paragraphs and a list of the new vocabulary words. The Fourth Reader included questions for oral and written work (Bohning, 1986). The silent reading method was not valued in education until the early 1900's.

The period of Scientific Investigation (1910 - 1925) encouraged testing of the methods used in reading. As a result of the testing, a period of

Intensive Research and Application (1925 - 1935) was pursued (Lapp and Flood, 1983). Education has made vast advances since this initial period of investigation, inspiring inquiry which led to growth. Many teachers have used knowledge and comprehension questions with students but only recent research has extrapolated the benefits of questioning at all cognitive levels (Perez, 1986).

Basic questioning skills, at the current level employed by teachers, need to be sharpened. Questions should be clear and succinct, sequential rather than disjointed, and paced with pause time. Asking only one question at a time will also direct student thinking. Responses by the teacher and/or multiple responses by the students will expand learner perception (Watson, 1986). Effective teachers exhibit a varied and positive approach in their classrooms. Student responses are encouraged, risk-taking is inspired, content is explored at diverse thinking levels, criteria for judgement are stated and effort is praised (Zintz, 1984). Farrar (1984) stated that the standard method of questioning in Western schools is the question/answer/feed-back type.

Through this method students learned the socially correct understanding of a selection but did not comprehend intrinsically.

Literal questions are answered more effectively by students since the majority of the questions asked by teachers are on this level. Durkin (1979) observed that the emphasis on questioning seemed to be guessing the teacher's answer rather than recalling what was read. Questions should be open-ended rather than seeking specific information. Directing students to predict and validate their responses enhanced thinking and reasoning skills (Nessel, 1987). A student's experiential knowledge was essential within this process. Comparing a story's outcome with the student's prediction further elevated comprehension.

Through active rather than passive comprehension, students were instructed on how to form questions themselves prior to, during, and after reading a selection. Advancing from modeling by the teacher to transferring the questioning responsibility to the students within a 10 day period, the experimental group scored higher than the control group 90 percent of the time as graphed by Nolte and Singer (1985). Active

comprehension also developed student awareness of their own thought processes by organizing and directing their reading toward specific objectives. Self-questioning strategies assist students to develop into capable independent readers (Nolte and Singer, 1985).

The standard questions of teachers are literal, inferential, and evaluative. Nessel (1987) stated that teacher questioning is often an oral examinaton rather than verification of understanding, since the primary purpose of the story is overlooked in favor of insignificant details. Questions in which a specific answer is solicited do not communicate impressions or understanding (Nessel, 1987). Soliciting knowledge of the problem, rather than details, should be the primary focus. Details should be used as criteria to verify the viewpoint. Students have incorporated the three standard levels (literal, inferential, and evaluative) in their prediction rather than stating isolated facts. Correctness was evaluated by the thought process the student followed, not by predetermined answers. Multiple, supported responses further enhanced the comprehension and elevated the leval of thinking.

Understanding is not relevant when details alone are stated.

"A questioning strategy that focuses on prediction is a powerful tool for developing and enhancing comprehension at all grade levels" (Nessel, 1987). Questions to elicit a prediction with supportive data from background experience can connote an outcome. Comparing the proposed outcome with the actual outcome through multiple student input will enhance comprehension.

Through questioning, teachers can develop and not merely assess comprehension. Story mapping can provide a firm foundation on which higher-level questions can be based (Beck, McKeown, 1981). Story Mapping is outlining a story by listing the setting, problem, goal, main events of the story, and the outcome or resolution of the story. Mapping can organize the significant information in a concise format for student utilization. Effective questioning can expand student cognition from rote memory to critical thinking levels such as interpretation, application, analysis and evaluation (Frager, 1986). Higher-level thinking grows

from lower-level questioning as an oak tree grows from an acorn. Teachers must be educated in levels of questioning and given practice and direction in planning specific lessons. Through lessons, teachers can model higher level answers as well as state evidence to support the answer.

Another teaching technique is summarizing to evaluate comprehension. Tuba (1965)(cited by McConaughy [1980]) found summarizing to be an initial step in comprehension; Crowell and Au (1979) (cited by McConaughy [1980]) viewed a summary as a doorway to higher level questions. Frager (1986) pointed out that probing to enhance and clarify answers and then summarizing the answer in different terminology all extend comprehension at various levels of thinking.

Raphael (1982) stated that when students know where answers are found, comprehension increases. The Question Answer Relationship (QAR) plan discussed by Raphael (1986) stated that answers have three sources. Students can be taught the QAR and find answers that are Right There (details found in the story), Think and Search (putting together separate details of the story), and in My Head (using background knowledge).

When students understood the QAR, they were able to discuss and defend their answers and become more aware of the information presented in a selection.

The question classification system formulated by B.S. Bloom is hierarchical. Each category has features unique to that category but encompasses elements of the lower categories (Frager, 1986). Bloom's Taxonomy is a developmental process with each level of thinking. Success at the new level may depend on mastery at the level or levels below the one under consideration. Some educators have equated the taxonomy by Bloom to the hierarchy of learning that includes the process of comprehension (Lapp and Flood, 1983). Bloom provides insight into educational objectives when sequencing instruction as well as levels of questions. "Instruction needs to be carefully sequenced in order to encourage the children to formulate the concept, interpret the information, and apply the learned principles and facts (Lapp and Flood, 1983: 483). Students must become familiar with the levels of questioning and learn to formulate their own questions since teachers are not lifelong appendages who direct all reading for maximum comprehension.

Through research, this practicum writer learned about numerous techniques to improve comprehension. Some would apply to older students but primary students need basic strategies that progress from the concrete to the abstract with practice provided through numerous experiences. Words such as "clear", "multiple responses", and "succinct" suggested by some researchers are ambiguous to primary children and should be modeled rather than directed. According to Farrar (1984), the question/answer/feedback method causes students to be tested rather than actively involved in understanding the selection. Nessel's technique employing prediction and comparison of the final outcome with the initial expectation keeps the teacher as the focal point in reading, since most primary students do not continue to search for meaning. As with prediction, McConaughy's measurement by summarizing may omit details pertinent to the story.

This practicum writer finds the following strategies appropriate for second graders: (1) Story mapping provides a summary with a concrete plan. The setting, characters, problem, events and outcome can be filled in using a given map format and the essence of

the story will be readily available to proceed to higher level questions; (2) The Question Answer Response (QAR) would increase levels of teacher questions if attention were given to "Think and Search" rather than "Right There" answers. Bloom provides a taxonomy on the cognitive level with a description of the various levels and action verbs to suggest questions.

Primary teachers are inundated with daily planning for ten or more specific activities. Time management makes it imperative to provide a concrete tool for teachers to use to enhance questioning. In addition to daily planning, time must be allocated for meetings, paperwork, parent conferences, and interaction with students on an individual basis. After giving total commitment, little time or energy is left for intensive pursuit of new endeavors, thus questioning at the higher levels is not researched or implemented even though teachers perceive a discrepancy between the level used and the level known to enhance thinking skills.

The solution chosen by the writer is implementing a program using Bloom's Taxonomy to train teachers in

higher level questioning through the use of fairy tales to transcend the wide range of reading levels with common selections. Using the story map as a foundation, the teachers will progress to higher levels of questioning. By using common selections, the team can meet weekly to share ideas and create questions on the Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation levels. Just as questions from the teachers' edition are the "Bible" for some teachers, using the basal reader, Bloom's Taxonomy will provide a guide for higher-level questioning.

As teachers direct or encourage their students to progress from convergent to divergent thinking, questioning will be addressed at higher levels. By introducing, experiencing, valuing and finally internalizing the major levels of Bloom's Taxonomy, the writer feels teachers will raise the level of questioning employed in the classroom. Also, teachers can encourage their students to increase their own questioning ability with resultant improvement in comprehension and thinking levels.

CHAPTER III

Methodology

The writer worked with the target population of teachers to acquaint them with Bloom's Taxonomy and provide questions and activities for them to use in the classroom. Since the attitude of the participants in this study is critical to success of the implementation, the writer believed this strategy would be productive. Teachers would not feel undue pressure to apply techniques in the classroom before a level of familiarity was achieved. Rate of change-over from traditional approaches should be determined by the attitude of the participants with an element of challenge to invite further progress. Providing initial questions and complementary activities to promote positive outcomes would further increase the comfort level of the target group. When teachers had a knowledge of the desired goal and were supplied with concrete questions and actiities to implement the practice in their classrooms, the writer hypothesized a higher probability that new practices would be

employed. In general, the plan for working with the target teachers weekly for 1/2 hour was as follows:

Week 1: The writer will lead discussion and provide handouts (Appendix E,F:42-43).

Weeks 2-5: The group will examine and classify questions according to Bloom's Taxonomy, and supply activities to supplement the story of the week in the following order: Week 2:Application; Week 3:Analysis; Week 4:Synthesis; Week 5:Evaluation. The writer will be doing extensive planning and will provide the materials for the first half of the plan.

Weeks 6-10: The group will formulate questions for the story of the week based on previous lessons. The writer will provide supplemental activities.

The writer will work with the target teachers weekly for one-half hour and each teacher will work with the target children one to two hours per week, depending on the number of supplemental activities used. The general plan for working with students will be reading the selection, mapping the story, and using higher order questions to develop students' ability to use analysis, application, synthesis and evaluation.

Supplemental activities will be whole group, small group, or individual in nature and will be designated as follows:

WG = whole group sections

SG = small group sections

I = individual or pair activity

Some activities required direct instruction and others were best experienced through independent center activities. All literature selections used were fairy tales to provide a common element that transcended student reading abilities and ranged four grade levels.

Week 1:

Objective: Familiarize target teachers with Bloom's Taxonomy.

Introduction

1. The writer will meet with the target population of teachers for forty minutes to discuss "Bloom's Action Verbs for Classroom Action" (Appendix E:42-43).

2. The writer will:

a. review selection sheet for week 2.

b. distribute "Story Map Sheets" (Appendix F:46).

(This technique does not have to be dealt with in depth since all target teachers are proficient in directing mapping).

c. explain that all materials have been prepared by the practicum writer and tell where they are housed.

d. schedule days for use in each clssroom.

3. The Target population of teachers will:

a. tell flannelboard story for Goldilocks and the Three Bears.

b. map story selection.

c. administer pretest.

Week 2:

Objective: Provide practice in using application questioning techniques.

The Gingerbread Boy

1. Tell flannel board story.

2. Map Story.

3. Application Questions

a. Why did the Gingerbread Boy run away?

b. Tell how the Gingerbread Boy could have gotten away from the fox.

c. What could you do with a Gingerbread Boy if you didn't want to eat him?

d. Draw a picture showing where the Gingerbread Boy went.

e. If you were the Gingerbread Boy, where would you have gone? why?

4. Activities (Teachers may select.)

a. Make and decorate Gingerbread Boy cookies. (SG)

b. Assign students to a measurement center to measure rice. (I)

c. Make and dress a Gingerbread Boy using cloth, paper or _ _ _.(WG)

d. Make crayon rubbings of different Gingerbread Boys in various stages of running. (I)

e. Use large collection of buttons to classify. Have another student guess the rule used to classify. (I)

f. Make paper bag puppet of Gingerbread Boy (WC)

g. Cut a Gingerbread Boy out of clay and use pencil to make decorations in the clay. (I)

Week 3:

Objective: Provide practice in using analysis questions

Three Billy Goats Gruff

1. Tell flannel board story.
2. Map Story.
3. Analysis Questions
   a. What else could the goats have done?
   b. Draw a bridge that would be safe for the billy goats to cross.
   c. Classify what is real and unreal in the story and give reasons.
   d. Make up a diet for a _____ and tell how it would get the food.
   e. Which goat was the smartest? Why?
   f. Change the ending of the story.
4. Activities
   a. Use a balance beam as a bridge for goats to cross. (Students can try it flat and on the edge.) (I)
   b. Make a yarn doll troll and write a story about his childhood. (WC)
   c. Make a paper troll to add to a fingerpainting or water color of the river. (WC)
   d. Write a rebus story. (SG) or (WG)

Week 4:

Objective: Provide practice in using synthesis qestions.

The Three Little Pigs

1. Tell flannelboard story.
2. Map Story.
3. Synthesis Questions:
   a. Change the story so the wolf is a farmer who likes to eat pork.
   b. The wolf is a vegetarian. How will the story change?
   c. Design a house that would be safe to live in.
4. Activities:
   a. Make paper plate puppets to act out story. (WG)
   b. Have students write a play. (SG)
   c. Create a story from the wordless picture book.(SG)
   d. Cut out meats from magazines and classify according to the animal they come from. (WG)
   e. Build a house (3 dimensional). (SG-I)
   f. Choose pictures from "Did it happen?" game and then put them in order. (WG)
   g. Find the hidden pictures. (WG)

Week 5:

Objective: Provide practice in using evaluation questions.

Rumpelstiltskin

1. Read Big Book story.
2. Map Story
3. Evaluation Questions
   a. Place each character under "good" or "bad" and give a reason for putting them in that column.
   b. Should the queen or Rumpelstiltskin get to keep the baby?
   c. Should you keep a promise? Why?
4. Other Questions:
   a. How will the girl get out of the predicament of spinning straw to gold?
   b. If you had no straw, what would you spin into gold?
   c. What job would you ask Rumpelstiltskin to do for you?
5. Acivities:
   a. Look up the meaning of your name.
      Does the meaning describe you? (I)

b. Hide the letters of our name in a painting or drawing. (I)

c. Ask your parents why they named you _____. Share with the class. (I)

d. Print your name on a sheet of paper. Keep tracing around your name until you are to the edge of the paper. (I)

e. Construct a wordsearch using names of your clasmates. (WG - I)

f. Make up names and jobs that would go together with a certain job. (SG)
(Ex. I.M. Baker-cook, Al I. Gator-hunter, Penny Paper-banker, Ruby Ring-jeweler)
Use the phone book if you wish.

g. Make Rumpelstiltskin from clay. (I)

Week 6:

Objective: Provide practice in using higher-order questions.

Elves and the Shoemaker

1. Tell flannelboard story.
2. Map Story
3. Sample Questions:
   a. What kind of food would elves eat?
   b. Tell how the characters in the story were helpful.
   c. List five ways you can help someone.
   d. Plan something you will do for someone.
      Include: The Project Materials or
               equipment you need.
               List how you will do it.
4. Activities:
   a. Use a hammer to pound in a nail. (I)
   b. Put your foot on the floor and trace it.Design a shoe and tell where you would wear it. (I)
   c. Cut pictures of shoes from a magazine. Draw the person who would wear them. (SG-I)
   d. Classify shoes in your room. (WG)
   e. If you were an elf, draw the kind of clothes you would like to wear. (I)

Week 7:

Objective: Provide practice in using higher-order questions

The Little Red Hen

1. Tell magneticboard story.
2. Map Story.
3. Sample Questions:
   a. Why did the Little Red Hen eat the bread herself?
   b. Tell why her friends did not help.
   c. Name some jobs that are easier to do with a friend.
   d. List five more things you can make using flour..
   e. The Little Red Hen found some wheat.
      What would she find in your yard?
      What would she do with it?
4. Activities:
   a. Make bread. (WG-SG)
   b. Create a hen scratch painting using a fork and paint. (I)
   c. Draw events in the story and put them in order.(SG)
   d. Write stories in shape books (hen, bread...).(I)
   e. Create a barnyard mural. Draw and paste on animals discussing size relationship. (SG)

Week 8:

Objective: Provide practice in using higher-order questions.

Jack and the Beanstalk

1. Read story to students.
2. Map Story.
3. Sample Questions:
   a. How will Jack use each item he got from the giant?
   b. Tell the story from the giant's point of view.
   c. What else could Jack have done with the cow?
   d. Is Jack good or bad? Tell your reasons.
   e. How can you get money when you need it?
   f. What would your parents do if you traded the family car for three magic beans?
4. Activities:
   a. Plant bean seeds. Put them in different places to show the effect of sunlight. (I)
   b. Make telescope beanstalk. (I)
   c. Construct a wordless picture book that will tell the story. (SG)
   d. Cut out 10 things from the newspaper that would be worth more than $100. (No two items can be the same.) (SG-I)

Week 9:

Objective: Provide practice in using higher-order questions.

Hansel and Gretel

1. Tell flannelboard story
2. Map Story
3. Sample Questions:
   a. What could Hansel and Gretel's parents have done rather than leaving them in the woods?
   b. Are stepmothers treated fairly in stories? Why?
   c. Did the children do what is right when they stole from and killed the witch? Why?
   d. What do people do to show you they are not nice to be around?
   e. Rewrite the story as a class showing the children as mischievious and bothering an old lady who takes them in when they are lost.
4. Activities:
   a. Make a gingerbread house. (SG)
   b. Draw woods that are "friendly" and woods that are "scary." (SG-I)
   c. Find hidden pictures. (WG)
   d. Write a book about your family. Make illustrations. (I)

Week 10:

Objective: Provide practice in using higher-order questions.

Cinderella

1. Read Cinderella
2. Map Story
3. Sample Questions:
   a. Make up a work schedule for Cinderella.
   b. If your fairy godmother appeared, what two things would you wish for? Draw them.
   c. Why didn't Cinderella's glass slipper break?
   d. Look around the room. What would your fairy godmother use to make a carriage and horses to pull them?
   e. What should you do with something you find? Why?
4. Activities:
   a. Make paper clocks. Determine a time schedule for Cinderella. (WG)
   b. Bake pumpkin cookies. (WG-SG)
   c. Design a coach. (SG-I)
   d Take a glass slipper around to find a teacher it will fit. (SG)
   e. Construct a broom from things found in nature.(SG)
   f. Design a dress Cinderella would wear to a big dance today. (I)
   g. Make or plan treats for a Cinderella Ball. (SG)

CHAPTER IV

Results

Informally through teacher discussion, a formative evaluation occured at the weekly meetings held with the target population of teachers. Discussions included successes, problem areas, relevance and ease of handling the various supplemental activities as well as phrasing questions according to Bloom's Taxonomy by target population of teachers.

A summative evaluation enumerated the overall results for both groups, targeted teachers and targeted students. To evaluate Objective one a posttest developmental sequence as delineated by Bloom's Taxonomy that listed ten questions was responded to by targeted teachers. Results were evaluated by the writer as to accuracy of response on each level in relation to the developmntal sequence outlined by Bloom. One hundred percent of targeted teachers demonstrated 90 percent accuracy and three of the four teachers achieved 100 percent. Objective one was accomplished. For the target population of students the pretest

administered during the first week of implementation was repeated to measure the success of objective two. Results were evaluated and compared to the initial responses. Ninety percent of the target students improved at least 20 percent in their ability to answer a developmental group of higher-order questions. Thus, objective two was achieved.

The discrepency gap between literal and inferential comprehension shown on the Ginn Mastery Tests administered at the end of the school year was be compared to those given at the prior level. The 37 percent gap evident on the prior test decreased to 13 percent at the end of the implementation period. This increased accuracy in inferential comprehension provided evidence that students have improved comprehension resulting from teachers' use of higher-order questions. Sixty-four percent of the target students answered correctly ninety percent of the inferential questions on the Ginn Mastery Test, thus reducing the discrepency gap.

All three objectives from the original proposal were attained upon completion of the implementation. Furthermore, it was evident from teacher observation

the students' creative projects expanded horizontally as well as vertically. Often the scope of a specific activity became a self-motivated major undertaking for certain individuals. Through group work, students inspired major projects from a simple activity.

The writer and other target teachers found implementation a rewarding experience and have planned to begin next year with the same program. By initiating this program at the onset of the school year, the utilization of higher-order questions should establish guidelines to be followed throughout the year.

CHAPTER V

Recommendations

After completion of the program to develop skills in both teachers and second grade children in the Cognitive Domain, the target population of teachers may agree to pursue the Affective and/or Creative Domain by implmenting a similar plan for group interaction and experimentation. The target population of teachers might willingly share the present program developed by the writer with a new group of teachers through school-based inservice training. The current trainees could become trainers. The program could be shared with the county language arts coordinator to implement a county-wide inservice. Through inservice, teachers could expand their knowledge of higher-order questioning techniques by using familiar literature and clearly-planned activities.

Student groups could be formed to formulate their own questions and design activities to accompany the fairy tale of their choice. Each group could present its selection to other groups, thus sharing the project

as well as internalizing questioning techniques. Active involvement imparts a feeling of ownership to the students.

Since the use of higher-order questions proved effective and beneficial, the second grade team wants to begin implemenation in the first quarter rather than the fourth quarter of the year. The team also plans to expand the program to include other literature selections. A well-organized system, such as a card file or literature box, would encourage and facilitate program expansion. The more accessible the materials, the more successful the program.

Reference List

Beck, Isabel L. an Margaret G. McKeown. "Developing Questions That Promote Comprehension: The Story Map," Language Arts, November/December 1981.

Bloom, B.S., (Ed.) Taxonomy of Educational Objectives Handbook I, Cognitive Domain. New York: David McKay Company, 1956.

Bohning, Gerry. "The McGuffey Electic Readers: 1836-1936." The Reading Teacher, December 1986.

Durkin, Dolores. "What Classroom Observations Reveal about Reading Comprehension Instruction." Reading Research Quarterly, Vol. 14, No.4, (1979).

Farrar, Mary Thomas. "Why do we ask Comprehension Questions? A New Conception of Comprehension Instruction," The Reading Teacher, February 1984.

Frager, Alan M. "How Can We Improve Teacher Questioning? - A Good Question," Reading Improvement, Summer 1986.

Lapp and Flood, Teaching Reading to Every Child, 1983.

Lewis, Ellen S. "Teacher Influences on Cognitive Performance," Peabody Journal of Education, 1976.

McConaughy, Stephanie H. "Using Story Structure in the Classroom," Language Arts, February 1980.

Mier, Margaret. " Comprehension Monitoring in the Elementary Classroom," The Reading Teacher, April 1984.

Nessel, Denise. " Reading Comprehension: Asking the Right Questions," Phi Delta Kappan, February 1987.

Nessel, Denise. "The New Face of Comprehension Instruction: A Closer Look at Questions," The Reading Teacher, March 1987.

Nolte, Ruth Yopp and Harry Singer. "Active Comprehension: Teaching a Process of Reading Comprehension and Its Effects on Reading Achievement," The Reading Teacher, October 1985.

Perez, Samuel A. "Improving Learning Through Student Questioning," The Clearing House, October 1986.

Raphael, Taffy E. "Question-Answering Strategy for Children," The Reading Teacher, November 1982.

Raphael, Taffy E. "Teaching Question-Answer Relationships, Revisited," The Reading Teacher, February 1986.

Watson, Edward D. "They Won't Think? Then Sharpen Your Questions," Learning, September 1986.

Zintz, Miles v., Zelda R. Maggart. The Reading Process the Teacher and the Learner. 1984.

APPENDIX A

Pre-implementation Level Summary

Ginn Levels	Recommended Grade	Number of Students
1-2	K	1
3,4,5,	1	5
6,7	2	78
8,9	3	21

APPENDIX B

Teacher Questionnaire (Pretest)

Please list 10 questions you would use for a specific lesson in your classroom.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

APPENDIX C

Teacher Questionnaire (Posttest)

Please list 10 questions you would use according to the classification learned from Bloom's Taxonomy.

Literal 1._____

Comprehension 2._____

Application 3._____

4._____

Analysis 5._____

6._____

Synthesis 7._____

8._____

Evaluation 9._____

10._____

APPENDIX D

Student Pre/Posttest

Goldilocks and the Three Bears

1. What did Mama Bear make?
2. Why did the bears go for a walk in the woods?
3. If your family was the bear family, what would your mom make for dinner?
4. What would Goldilocks use if she came to your house?
5. What would have happened if the bears had not gone for a walk in the woods?
6. The three bears called the police. What law has Goldilocks broken?
7. Tell something else Goldilocks could have done rather than going in the house.
8. Was it right for Goldilocks to go in the Three Bears house? Why or why not?
9. Is Goldilocks good or bad? why?
10. On the other side of the paper draw the three bears house and show where Goldilocks went.

APPENDIX E

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

KNOWLEDGE. Knowledge is defined as the remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.

ACTION VERBS

Acquire	Follow directions	Locate	Quote	Reproduce
Choose	Group	Match	Read	Select
Count	Identify	Memorize	Recall	State
Define	Indicate	Name	Recite	Tabulate
Distinguish	Know	Outline	Recognize	Trace
Draw	Label	Pick	Record	Underline
Fill-in	List	Point	Repeat	Write
Find				

APPENDIX E - cont'd

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

COMPREHENSION. Comprehension is defined as the ability to grasp the meaning of material. This may be shown by translating material from one form to another (words to numbers), by interpreting material (explaining or summarizing), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material, and represent the lowest level of understanding.

ACTION VERBS

Account for	Distinguish	Generalize	Paraphrase	Reword
Associate	Draw	Give in own words	Predict	Rewrite
Change	Estimate	Give examples	Prepare	Restate
Classify	Expand	Group	Put in order	Show
Conclude	Explain	Infer	Read	Simplify
Compare	Express in other terms	Illustrate	Rearrange	Suggest
Contrast	Extend	Interpolate	Recognize	Summarize
Convert	Extrapolate	Interpret	Reorder	Trace (on map or chart)
Demonstrate	Fill in	Measure	Reorganize	Transform
Describe	Find	Outline	Represent	Translate
Determine			Retell	
Define				
Differentiate				
Discuss				

APPENDIX E - cont'd

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

APPLICATION. Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require a higher level of understanding than those under comprehension.

ACTION VERBS

Apply	Determine (calculate)	Generalize	Perform (except in math or in public)	Record
Calcuate	Develop	Graph	Plan	Relate
Choose	Discover	Illustrate	Practice	Restructur
Classify	Discuss	Interpret	Predict	Select
Collect information	Distinguish between	Interview	Prepare	Show
Complete	Employ	Investigate	Present	Solve
Compute	Estimate	Keep records	Produce	Track (in development, history, process)
Construct	Examine	Locate (information)	Prove (in math)	Transfer
Construct using	Expand	Make	Put into action	Translate
Convert (in math)	Experiment	Manipulate	Put to use	Use
Differentiate between	Express in a discussion	Model	Put together	Utilize
Demonstrate	Find (implies investigation)	Modify		
Derive		Operate		
		Organize		
		Participate		

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

ANALYSIS. Analysis refers to the ability to break down material into its component parts so that its organizational structure may be understood. This may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.

ACTION VERBS

Analyze	Determine	Examine	Make inferences	Search
Break down	Diagram	Formulate	Order	Select
Categorize	Differentiate	Form generalizations	Outline	Separate
Classify	Discover	Examine	Point out	Simplify
Compare	Discriminate	Group	Put into (categories).	Sort
Contrast	Distinguish	Identify	Recognize	Subdivide
Criticize	Divide	Illustrate	Relate	Survey
Debate	Draw conclusions	Infer		Take apart
Deduce		Inspect		Transform
Detect				Uncover

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

SYNTHESIS. Synthesis refers to the ability to put parts together to form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structures.

ACTION VERBS

Arrange	Derive	Integrate	Prescribe	Revise
Blend	Design	Invent	Present (an original report or work)	Rewrite
Build	Devise	Make up		Specify
Categorize	Develop	Modify		Suppose
Combine	Document	Originate		Summarize
Compile	Explain	Organize	Produce	Synthesize
Compose	Form	Perform (in public)	Propose	Tell
Constitute	Formulate		Rearrange	Transmit
Construct	Generalize	Plan	Reconstruct	Write
Create	Generate	Predict	Relate	
Deduce	Imagine	Prepare	Reorganize	

BLOOM ACTION VERBS FOR CLASSROOM ACTION

DESCRIPTION OF MAJOR LEVEL IN COGNITIVE DOMAIN

EVALUATION. Evaluation is concerned with the ability to judge the value of material (statement, novel, poem, research report) for a given purpose. The judgements are to be based on definite criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine the criteria given them. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all of the other categories, plus conscious value judgments based on clearly defined criteria.

ACTION VERBS

Appraise	Consider	Determine	Interpret	Standardize
Argue	Contrast	Discriminate	Measure	Summarize
Assess	Criticize	Distinguish	Rank	Support
Award	Critique	Evaluate	Rate	Test
Choose	Decide	Grade	Recommend	Validate
Compare	Defend	Judge	Relate	Verify
Conclude	Describe	Justify	Select	

APPENDIX F

STORY MAP